

January 8, 1997  
NARRATIVE FOR SEVERAL  
NORTHEASTERN SOUTH DAKOTA  
OIL & GAS DEVELOPMENT POTENTIAL MAPS

INTRODUCTION

This report covers several counties in northeastern South Dakota (Fig. 1) which were determined to have low potential for oil and gas development. The following counties are covered by this report:

Beadle	Duell	Kingsbury
Brookings	Faulk	Lake
Buffalo	Grant	Marshall
Brown	Hamlin	Miner
Clark	Hand	Potter
Codington	Hyde	Roberts
Day	Jerauld	Sanborn
		Spink
		Sully

All these counties lie east of the Missouri River in the northeastern part of South Dakota. The topography in these counties varies from rolling hills near the Missouri River in the west to a flat glaciated terrance to the east (Hedges, 1968, Steece, 1965). Geologically, these counties are . There are no producing oil and gas wells in these counties.

OCCURRENCE POTENTIAL

All of Sully, Potter and the west portion of Hyde and Buffalo Counties are classified as moderate oil & gas occurrence potential. This is based on regional geologic mapping (Mallory, 1972, p. 56) that indicates the county contains 2000-5000 feet of sedimentary rocks. The type log for these counties, taken from the \_\_\_\_\_ (\_\_\_\_\_), encountered \_\_\_\_\_ feet of sedimentary rock before drilling into Precambrian basement rock. This is the same, but thinner package of rocks which contain source beds and producing reservoirs in other parts of the Williston Basin.

All the other counties covered by this report, including the eastern portions of Hyde and Buffalo, are rated low occurrence potential. Once again, this is based on regional geologic mapping (Mallory, 1972) which shows this part of South Dakota to have less than 2000 feet of sedimentary rocks. the type log for the counties, the \_\_\_\_\_, shows \_\_\_\_\_ feet of sedimentary rock before reaching Precambrian basement.

## DISCUSSION OF DEVELOPMENT POTENTIAL RATINGS

All of these counties are classified low development potential due to the thin sedimentary cover in these counties and because of the lack of wells that were specifically drilled for oil and gas exploration. Many of the counties have no oil and gas exploratory wells at all. None of the counties have any producing oil and gas wells. Widely-spaced wildcatting may occur in this area in the next 15 years.

### REFERENCES CITED

- Hedges, L. S., 1968, Geology and water resources of Beadle County, South Dakota: South Dakota Geological Survey Bulletin No. 18, 66p.
- Mallory, W.W. (ed.), 1972, Geologic atlas of Rocky Mountain Region: Rocky Mountain Association of Geologists, p. 56.
- Steece, F.V., 1965, Geology and ground water supplies in Sanborn County, South Dakota: South Dakota Geological Survey Bulletin No. 17., 182 p.